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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/567,986

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Joseph Lanzarotta

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EXAMINER

CHEUNG, WILLIAM K

ART UNIT

PAPER NUMBER

1796

NOTIFICATION DATE

DELIVERY MODE

09/27/2010

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

iplawpat@bfusa.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/567,986	<b>Applicant(s)</b> LANZAROTTA ET AL.	
	<b>Examiner</b> WILLIAM K. CHEUNG	<b>Art Unit</b> 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 03 September 2010.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-7 and 11 is/are allowed.
- 6) ☒ Claim(s) 8-10 and 12-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                    | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)         | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

1. In view of the amendment filed September 3, 2010, claims 1-20 are pending.
2. In view of the amendment filed September 3, 2010, the rejection of claims 1-7, 11-12 under 35 U.S.C. 102(b) as being anticipated by Bruck et al. (DE 3501 697), is withdrawn. Bruck et al. are silent on compositions comprising polybutadiene rubber, which is a homopolymer. Further, Bruck et al. do not teach the amount of thio-containing surfactants being claimed.

### ***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claim 16 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

In light of MPEP 2173.05(i), any claim containing a negative limitation which does not have basis in the original disclosure should be rejected under 35 U.S.C. 112, first paragraph as failing to comply with the written description requirement. Since

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applicants' original disclosure does not have any basis for the negative limitation "exclusive of an alkali metal salt of an alkylsulphonic or alkylsulphuric acid" as claimed in claim 16, the rejection set forth under 35 U.S.C. 112, first paragraph is proper.

The examiner acknowledges that the examiner had withdrawn the 112 rejection of Claim 16 under 35 U.S.C. 112, first paragraph in the advisory action of March 19, 2010. However, the rejection is reinstated because applicants' specification (0009) fails to provide the negative limitation "exclusive of an alkali metal salt of an alkylsulphonic or alkylsulphuric acid" of claim 16. Applicants must recognize that "comprising a surfactant containing a sulfur atom and excluding alkali metal salt of an alkylsulphonic or alkylsulphuric acid" does not mean that the claimed composition is "exclusive of an alkali metal salt of an alkylsulphonic or alkylsulphuric acid". Therefore, the examiner has a reasonable basis to reinstate the rejection of claim 16 under 35 U.S.C. 112, first paragraph.

Applicant's arguments filed September 3, 2010 have been fully considered but they are not persuasive. Applicants argue that the negative limitation is definite because the recitation "excluding alkali metal salt of an alkylsulphonic or alkylsulphuric acid" is used to modify the noun "rubber compound". However, applicants fail to recognize that the "negative limitation" feature was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Therefore, the rejection set forth is proper.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. Claims 8-10, 12-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bataille et al. (US 2001/0051677) in view of Bruck et al. (DE 3501 697).

8. (Previously Presented) A vulcanized tire sidewall comprising based on 100 part of elastomer about 0.02-10 parts of a surfactant containing a thio functionality.

9. (Previously Presented) A tire comprising a vulcanized sidewall component comprising a surfactant containing a thio functionality.

10. (Currently Amended) A method of forming a film on the exposed surface of vulcanized rubber sidewall, comprising:
- adding about 0.02-10 parts of a surfactant containing a thio functionality to a rubber composition,
  - curing said rubber composition,
  - exposing the cured rubber composition to ozone.

Bataille et al. (page 7, claims 38-39) disclose a tire and the process for making the same, where the side walls of which comprise a vulcanized elastomer, and alkylsulfonic or alkylsulfuric acid (surfactant containing a thio functionality), in an amount of between 0.5 and 10 phr. Bataille et al. (page 2, 0027, Table) clearly teach the use of 1.5 phr of sulfur, 35 phr of natural rubber, and 60 phr of carbon black (fillers). The said process involves the exposing the tire side wall to ambient air having an ozone concentration (for curing) to form a film having a thickness of equal to or greater than 0.5 microns formed on the outer face of the sidewall. Regarding the claimed "antidegradant comprising wax", Bataille et al. (page 1, 0004) disclose the advantage of incorporating waxes into the disclosed composition as a protective coating on the surface. Therefore, motivated by the expectation of success of forming a protective coating on the disclosed composition, it would have been obvious to one of ordinary skill in art to incorporate a wax (or antidegradant) into the composition of Bataille et al. to obtain the antidegradant or wax being claimed. Although Bataille et al. (page 1, 0006) teach that the surface migration of waxes can make the surface dull and gray or even whitish, one of ordinary skill in art recognize and appreciate the value of a protective

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coating on the surface over the surface appearance when the surface appearance is not required or desired.

The difference between Bataille et al. and claims 8-10, 12-20 is that Bataille et al. are silent on a thio compound.

Bruck et al. discloses a rubber composition which comprises (A) a rubber and (B) a ether-thioether such as Vulkano185® (example 1). The obtained co-vulcanizates, suitable as pipe coverings, conveyor belt coverings, or drive belts (p.5, 1.4-5), show a good resistance to ozone (page 3, 1.6; page 5, 1.2; page 10, 1.6). Motivated by the expectation developing rubber composition with ozone resistance properties, it would have been obvious to the skilled in the art to incorporate the ether-thioether teachings of Bruck et al. into the rubber composition of Bataille et al. to obtain the invention of claims 8-10, 12-20.

In view of the 112 rejection of claim 16, the rationale set forth is adequate for the rejection of claim 16.

Applicant's arguments filed September 3, 2010 have been fully considered but they are not persuasive. Applicants argue the Bruck et al. do not teach using the disclosed composition for the sidewall of a vulcanized tire. Since Bruck et al. and Bataille et al. are not directed to the same tire related product, applicants argue that Bruck et al. and Bataille et al. are non-analogous art to each other. However, the examiner disagrees because Bruck et al. and Bataille et al. are analogous art because they are drawn to the art of using vulcanized rubbers to develop rubber products.

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Although applicants argue that Bruck et al. has already obtained products with good properties, there is no motivation to further improve the products of Bruck et al., applicants fail to recognize that Bruck et al. provide no indication that the rubber products disclosed has been optimized. Therefore, the examiner has a reasonable basis to believe that rationale set forth for the rejection is proper and that applicants' argument is unfounded.

Applicants also argue that it is improper for the examiner to label the undesignated additives in Bruck et al. as antidegradants. However, applicants fail to recognize that "antidegradants" broadly means "any substance or materials" that can reduce the degradation of compositions resulted from atmospheric attack (specification, page 1, line 15-25). Since the substances disclosed in Bruck et al. can have beneficial effect to the entire composition, the examiner has a reasonable basis to group these ingredients as "antidegradants". Bruck et al. (page 4, line 8-11) clearly teach the use of antioxidation agents" Further, Bruck et al. (page 5, Table) clearly teach the use of styrenated diphenylamines, which are known as antiozonants or antioxidants for rubbers.



**15     Background of the Invention**

Due to the nature of the elastomers used in rubber compounding, antidegradants are typically included in a rubber formulation to prevent atmospheric attack of the rubber compound. Elastomers having unsaturation in the polymer backbone are particularly vulnerable to ozone attack. In order to prevent the reaction between  
20     atmospheric ozone, and the polymer backbone, materials which are considered "antiozonants" are commonly used, and may include materials which bloom to the rubber surface, preventing reaction of atmospheric ozone with the polymer. Certain waxes are known to migrate to the rubber surface, forming an inert film that provides a  
25     layer of protection to the rubber from atmospheric ozone. Other known antiozonants include chemicals that inhibit crack formation or minimize the rate of crack growth.

The examiner uses Bataille et al. as a primary reference because it contains most of the features being claimed, including the "wax". Regarding the argument on motivation, Bruck et al. disclose a rubber composition which comprises (A) a rubber and (B) a ether-thioether such as Vulkano185® (example 1). The obtained co-vulcanizates, suitable as pipe coverings, conveyor belt coverings, or drive belts (p.5, 1.4-5), show a good resistance to ozone (page 3, 1.6; page 5, 1.2; page 10, 1.6). Motivated by the expectation developing rubber composition with ozone resistance properties, it would have been obvious to the skilled in the art to incorporate the ether-thioether teachings of Bruck et al. into the rubber composition of Bataille et al. to obtain the invention of claims 8-10, 12-20.

Regarding applicants' argument that although Bruck et al. teach a composition with good ozone resistance property, there is insufficient teachings that the ether-thioether components of Bruck et al. will provide the same benefits, applicants fail to

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recognize that the entire composition of Bruck et al. which contains the claimed thio compound can be incorporated into Bataille et al. for improving ozone resistance property of Battaille et al.

Regarding applicants' argument that carbon black is not an antidegradant, the examiner disagrees because carbon black can reduce the amount of UV-light penetration to the rubber composition which ultimately prevent or reduce degradation.

### ***Allowances***

7. Claims 1-7, 11 are allowed.
8. The following is an examiner's statement of reasons for allowance:

As of the date of this office action, the examiner has not located or identified any reference that can be used singularly or in combination with another reference including the closest prior art of Bruck et al. (DE 3501 697) to render the present invention anticipated or obvious to one of ordinary skill in the art.

In light of the above discussion, it is evident as to why the present claims are patentable over the prior art.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, and to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

***Conclusion***

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, THIS ACTION IS MADE FINAL. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to WILLIAM K. CHEUNG whose telephone number is (571)272-1097. The examiner can normally be reached on Monday-Friday 9:00AM to 2:00PM; 4:00PM to 8:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David WU can be reached on (571) 272-1114. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/William K Cheung/  
Primary Examiner, Art Unit 1796

William K. Cheung, Ph. D.  
Primary Examiner  
September 14, 2010